Appendix C

Controls on Large Electric Utility Steam Generating Units

"NOx Emissions from Electric Utility Steam Generating Units" has been codified in Georgia Rule 391-3-1-.02(2)(jjj), hereinafter referred to as Rule (jjj). Effective May 1, 1999, this air quality control rule limited NOx from coal-fired units with maximum heat inputs greater than 250 MMBtu/hr located in the 13-county Atlanta 1-hour ozone nonattainment area to alternative emission limits to be established for the units by EPD's Director and/or to 0.34 lb/MMBtu heat input averaged over all affected units. Effective May 1, 2000, Rule (jjj) limits NOx from the same affected units to new alternative limits and/or 0.30 lb/MMBtu heat input averaged over all affected units. Effective May 1, 2003, Rule (jjj) limits NOx from the same affected units in the 13-county Atlanta 1-hour ozone nonattainment area and in Bartow, Floyd, and Heard counties to new alternative limits and/or 0.13 lb/MMBtu heat input averaged over all affected units. Effective May 1, 2003, Rule (jjj) also limits NOx from the same affected units in the 13-county Atlanta 1-hour ozone nonattainment area, those in Bartow, Floyd, and Heard counties, and also units in Monroe and Putnam counties to new alternative limits and/or 0.20 lb/MMBtu heat input averaged over all affected units. These emission limits apply during the period from May 1 through September 30 of each year on a 30-day rolling average basis.

Compliance with Rule (jjj) is determined, potentially, in two steps. First, each source is assigned (in an air quality permit) a specific alternative emission limit that will be a 30-day rolling average limit. The source-specific alternative emission limits will be established such that the weighted average of all of the source-specific emission limits, using the maximum heat input capacity for each source, will equal the 30-day rolling average lb/MMBtu limit in the Rule (i.e., 0.34 or 0.30 or 0.13 or 0.20 lb/MMBtu). If each source is complying with its specific alternative emission limit, compliance with Rule (jjj) is satisfied. If the actual emission rate from any source is greater than its alternative emission limit, then compliance shall be achieved by demonstrating that the actual Btu-weighted average emissions rate for all affected sources is less than the 30-day rolling average limit in the Rule.

Compliance with a 30-day rolling average alternative emission limit is determined by performing a weighted average, using the actual hourly source heat inputs (MMBtu/hr), of all of the hourly NOx emission rates (lb/MMBtu) for the periods of operation of the source during a 30 consecutive day source operational period. To determine compliance with a 30-day rolling average emission limit specified in the Rule (i.e., 0.34 or 0.30 or 0.13 or 0.20 lb/MMBtu), one would perform a weighted average, using the actual source heat inputs (MMBtu/hr), of all the hourly NOx emission rates for all of the affected sources during a 30 consecutive day period.

Georgia Power operates seven coal-fired power plants in the counties covered by Rule (jjj): Plants Bowen, Branch, Hammond, McDonough, Scherer, Wansley, and Yates.

Plant Bowen includes four coal-fired units, identified as Bowen Units 1, 2, 3, and 4. Each of these units is equipped with its own dedicated selective catalytic reduction (SCR) equipment for the reduction of NOx emissions.

Plant Branch includes four coal-fired units, identified as Branch Units 1, 2, 3, and 4. These units utilize Low NOx Burners (LNB) and Overfire Air (OFA) for the reduction of NOx emissions.

Plant Hammond has four coal-fired units, identified as Hammond Units 1, 2, 3, and 4. In 2000, Plant Hammond received an air quality permit amendment to construct (June 15, 2000) and operate (September 18, 2000) selective catalytic reduction (SCR) equipment for the reduction of NOx emissions on Hammond Unit 4 (SG04). Hammond Units 1, 2, and 3 are equipped with Low NOx Burners and Overfire Air for the reduction of NOx emissions.

Plant McDonough includes two coal-fired units, identified as McDonough Units 1 and 2. Plant McDonough has access to a natural gas supply, and this facility is required by Rule (jjj) to utilize natural gas technologies (co-firing) during the ozone season to achieve a reduction in NOx emissions.

Plant Scherer includes four coal-fired units, identified as Scherer Units 1, 2, 3, and 4. Plant Scherer switched from eastern to western coal in 2003 on Units 1 and 2 to reduce NOx emissions. Units 1, 2, 3, and 4 utilize Overfire Air to reduce NOx emissions.

Plant Wansley includes two coal-fired units, identified as Wansley Units 1 and 2. In 2000, Plant Wansley received an air quality permit amendment to construct (June 15, 2000) and operate (November 6, 2000) selective catalytic reduction (SCR) equipment for the reduction of NOx emissions on Wansley Units 1 and 2.

Plant Yates includes seven coal-fired units and these are identified as Yates Units 1, 2, 3, 4, 5, 6, and 7. Plant Yates has access to a natural gas supply and these have been required by Rule (jjj) to utilize natural gas technologies (co-firing, reburn) during the ozone season beginning in 1999 to achieve a reduction in NOx emissions.

Plant/Unit	NOx Base (lb/MMBtu)	NOx Control Method	NOx Target (lb/MMBtu)
Bowen 1	0.43	SCR	0.07
Bowen 2	0.44	SCR	0.07
Bowen 3	0.44	SCR	0.07
Bowen 4	0.44	SCR	0.07
Branch 1	0.99	LNB/OFA	0.50
Branch 2	0.72	LNB/OFA	0.50
Branch 3	0.83	LNB/OFA	0.50
Branch 4	0.83	LNB/OFA	0.50
Hammond 1	0.86	LNB/OFA	0.42
Hammond 2	0.86	LNB/OFA	0.42
Hammond 3	0.86	LNB/OFA	0.42
Hammond 4	0.43	SCR	0.07
McDonough 1	0.30	Natural Gas	0.26
McDonough 2	0.30	Natural Gas	0.26
Scherer 1	0.52	OFA/FUEL SWITCH	0.30
Scherer 2	0.53	OFA/FUEL SWITCH	0.30
Scherer 3	0.30	OFA	0.15
Scherer 4	0.32	OFA	0.20
Wansley 1	0.40	SCR	0.07

Plant/Unit	NOx Base (lb/MMBtu)	NOx Control Method	NOx Target (lb/MMBtu)
Wansley 2	0.43	SCR	0.07
Yates 1	0.30	Natural Gas	0.38
Yates 2	0.30	Natural Gas	0.38
Yates 3	0.30	Natural Gas	0.38
Yates 4	0.30	Natural Gas	0.33
Yates 5	0.30	Natural Gas	0.33
Yates 6	0.30	Natural Gas	0.26
Yates 7	0.30	Natural Gas	0.26

LNB = Low NOx Burner
OFA = Overfired Air
FUEL SWITCH = Switch from eastern to western coal